DEPARTMENT OF WORKFORCE SERVICES
ST. GEORGE DWS ADMINISTRATION
BUILDING HVAC REPLACEMENT
DFCM #05133920

DFCM DESIGN AND CODE CRITERIA

(Fee A.E: Attach and fill in applicable data for each drawing submittal)

Applicable Codes:	Year		Year
International Building Code	2003	International Mechanical Code	2003
Planning & Design Criteria to Prevent		International Plumbing Code	2003
Architectural Barriers for the Aged and		Ashrae/IES Energy Code	1999
the Physically Handicapped.		National Electrical Code	2002

A. Occupancy and Group : B / S-1

Change in Use : Yes ____ No ✓ Mixed Occupancy : Yes ✓ No ____

B. Type of Construction (Circle) I F.R. | II F.R. | II 1 HR. | II B | III 1 HR. | III N | IV H.T. | V 1 HR. | V N

C. Location on Property : F.R. Ext. Walls (Hrs.): N.R. Ext. Wall Opening(s) Protection (Hrs.) N.R.

D. Occupancy separation required (Hrs.): B/R-2=2 HR

Sprinklered: Indicate Yes or (No)

Stories : (1) or multiple

a. Actual Area²(ft) ____

b. Basic allowable area : 15,000 SF

c. Allowable Area increase due to side yards: N

%	Area (ft)	%	Area (ft)	%	Area (ft)
	N.A.				

d. Side yard area increase (ft): N.A.

Accumulative sub-total (b=d): ____

Sprinkler: area increase (x3 single) ____

(x 2 multi) ____

e. Total Allowable Area for a single story: N.A.

x 2 for multi-story building: ____

f. Ratio = a/e (Actual divided by allowable) ____

E. Fire-Resistive Requirements (Hrs.): (1 Hr., 2Hr., 3Hr., 4Hr., N. H.T.)

Exterior Bearing Walls:	N	Floors – Ceiling Floors	N
Interior Bearing Walls:	N	Roofs – Ceiling Roofs	N
Exterior Non-bearing Walls:	N	Exterior Doors and Windows	NR
Structural Frame:	N	Shaft Enclosures	1 HR
Partitions – Permanent:	N		

(OCCUPANCY SEPARATION – N.A.)

State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DRAWING INDEX:

M-000 TITLE SHEET
M-001 MECHANICAL GENERAL NOTES AND LEGEND
MD-101 MECHANICAL DEMOLITION FLOOR PLAN
MD-401 DEMOLITION MECHANICAL ROOM PLAN AND SECTIONS
ME-101 NEW MECHANICAL FLOOR PLAN
ME-401 NEW MECHANICAL ROOM PLANS AND SECTIONS
ME-501 MECHANICAL DETAILS
ME-601 MECHANICAL SCHEDULES

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PROFESSIONAL ENGINEER
09/23/05
WINWARD M. PACKER
No. 375080
STATE OF UTAH

MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION
AIR SIDE		
		EXISTING AIR DUCT TO BE REMOVED
		EXISTING AIR DUCT TO REMAIN
		NEW AIR DUCT
		RECT. TO RECT. AIR DUCT TAKE-OFF
		RECT. TO RND. AIR DUCT TAKE-OFF
		RND. TO RND. AIR DUCT TAKE-OFF
		RECT. TAKE-OFF AT END OF MAIN
		FLEXIBLE AIR DUCT
		LINED DUCT
		VANED ELBOW
		RADIUS ELBOW
		CONCENTRIC DUCT TRANSITION
		ECCENTRIC DUCT TRANSITION
		FLEXIBLE DUCT CONNECTION
VD		VOLUME DAMPER
		SUPPLY AIR DIFFUSER
		RETURN AIR, FRESH AIR, AND TRANSFER AIR
		CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE
		RETURN OR OUTSIDE AIR DUCT UP
		SUPPLY DUCT UP
		EXHAUST AIR INTAKE UP
		RETURN OR OUTSIDE AIR DUCT DOWN
		SUPPLY DUCT DOWN
		EXHAUST DUCT DOWN
		ROUND DUCT UP
		ROUND DUCT DOWN
		FLEXIBLE DUCT CONNECTION
	AP	ACCESS PANEL
		EXISTING EQUIPMENT TO BE REMOVED
		EXISTING EQUIPMENT TO REMAIN
		NEW EQUIPMENT
	AP	ACCESS PANEL
GENERAL TERMINOLOGY		
A / ME-501		SECTION LETTER DESIGNATION / SECTION DRAWN ON THIS SHEET
A2		DETAIL NUMBER DESIGNATION
F / 1		MECHANICAL EQUIPMENT DESIGNATION / EQUIPMENT ITEM DESIGNATION
D-1 / CFM		REGISTER, GRILLE OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW
R-1		GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRED
1		REVISION DESIGNATOR AND NUMBER
1		KEY NOTE DESIGNATOR AND NUMBER
	POC	POINT OF CONNECTION
	POR	POINT OF REMOVAL

SYMBOL	ABR.	DESCRIPTION
AIR SIDE CONTINUED		
T		WALL MOUNTED TEMP. THERMOSTAT
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
MA		MIXED AIR
FA		FRESH AIR
RF		RELIEF AIR
PIPING		
		UNION
	BV	BALL VALVE
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		EXISTING PIPING TO BE REMOVED
		EXISTING PIPING TO REMAIN
		NEW PIPING
		PIPE CAP OR PLUG
		FLEXIBLE CONNECTION
G		GAS PIPING
L		REFRIGERANT LIQUID LINE
S		REFRIGERANT SUCTION LINE
EQUIPMENT		
F-1,2,3		FURNACES
CC-1,2,3		DX COOLING COIL
CU-1,2,3		AIR COOLED CONDENSING COIL
DIFFUSERS, GRILLES ETC.		
	CD	CEILING DIFFUSER
	FRG	FLOOR RETURN GRILLE
	CEG	CEILING EXHAUST GRILLE
	CRG	CEILING RETURN GRILLE
	SWRG	SIDEWALL RETURN GRILLE
	CEG	CEILING EXHAUST GRILLE
MC		MECHANICAL CONTRACTOR
EC		ELECTRICAL CONTRACTOR
NIC		NOT IN CONTRACT
NTS		NOT TO SCALE
C		COMMON
NC		NORMALLY CLOSED
NO		NORMALLY OPEN

MECHANICAL GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS LIMITED TO THE MECHANICAL AND CONTROLS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 ANY AND ALL ALTERATIONS TO THE CONYRACT DOCUMENT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.

G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING EQUIPMENT PIPING ETC.

G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS.

G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.

G-7 C.F.M. LISTED IS ACTUAL AIR.

G-8 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-9 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-10 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2003 EDITION OF THE IMC AND IPC WITH UTAH ANNOTATIONS.

G-11 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANT, OIL, ETC. ALL SUCH MATERIAL SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

G-12 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING A LICENCED DESIGN BUILD ELECTRICIAN TO PERFORM ALL ELECTRICAL WORK FOR THIS PROJECT. THE DESIGN BUILD ELECTRICAL WORK SHALL BE STAMPED BY A PROFESSIONAL ELECTRICAL ENGINEER LICENSED IN THE STATE OF UTAH. ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT APPLICABLE CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE NEC, AND THE STATE OF UTAH DFCM DESIGN AND CONSTRUCTION STANDARDS AND GUIDELINES.

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PROJECT NAME & ADDRESS

ST. GEORGE DWS ADMIN. BLDG.- HVAC REPLACEMENT

DFCM# 15133920

ST. GEORGE, UTAH

MARK	DATE	REVISION

PROJECT MANAGER: WP
DRAWN BY: STAFF
CHECKED BY: SLW
DATE: 09/23/05
WHW JOB NO.: 05012

PROFESSIONAL ENGINEER 09/23/05 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE

MECHANICAL GENERAL NOTES AND LEGEND

SHEET NO.

M001

MECHANICAL DEMOLITION FLOOR PLAN

SCALE: 3/16" = 1'-0"

SHEET NOTES

1. SEE LARGE SCALE DEMOLITION SHEET MD401.
2. EXISTING FENCE SHALL REMAIN. FENCE IS PROPERTY LINE.
3. EXISTING CONDENSING UNIT AND REFRIGERANT PIPING SHALL REMAIN.
4. REMOVE EXISTING AIR COOLED CONDENSING UNIT AND ALL ASSOCIATED ITEMS. ELECTRICAL SHALL BE DISCONNECTED FROM REMOVED UNIT BUT NOT REMOVED FROM PAD.
5. REMOVE ALL EXISTING REFRIGERANT PIPING, SUPPORTS ETC. EXISTING WALL PENETRATIONS SHALL REMAIN AND BE RE-USED FOR NEW PIPING. SEE MD401 FOR CONTINUATION.
6. REMOVE EXISTING BREAKERS FOR REPLACEMENT.
7. EXISTING DUCTWORK, DIFFUSERS, GRILLES, CONTROLS ETC. SHALL REMAIN.
8. EXISTING AREA DRAINS SHALL REMAIN.
9. EXISTING THERMOSTATS SHALL REMAIN.
10. EXISTING CONCRETE PAD SHALL REMAIN.
11. LOCATION OF EXISTING NATURAL GAS STUB. CONTRACTOR SHALL COORDINATE WITH QUEST STAR GAS FOR METER SET.
12. EXISTING WALL MOUNTED ELECTRIC HEATERS SHALL REMAIN.
13. EXISTING RETURN AIR GRILLE HIGH ON WALL SHALL REMAIN.
14. EXISTING 14"Ø UNDER FLOOR RETURN AIR DUCT SHALL REMAIN. FIELD VERIFY SIZE AND LOCATION.
15. EXISTING 18X12 OVERHEAD SUPPLY AIR DUCT SHALL REMAIN. FIELD VERIFY SIZE AND LOCATION.
16. EXISTING UNDER FLOOR RETURN AIR DUCT SHALL REMAIN. FIELD VERIFY SIZE AND LOCATION FROM FAN ROOM.
17. EXISTING OVERHEAD SUPPLY AIR DUCT SHALL REMAIN. FIELD VERIFY SIZE AND LOCATION FROM FAN ROOM.

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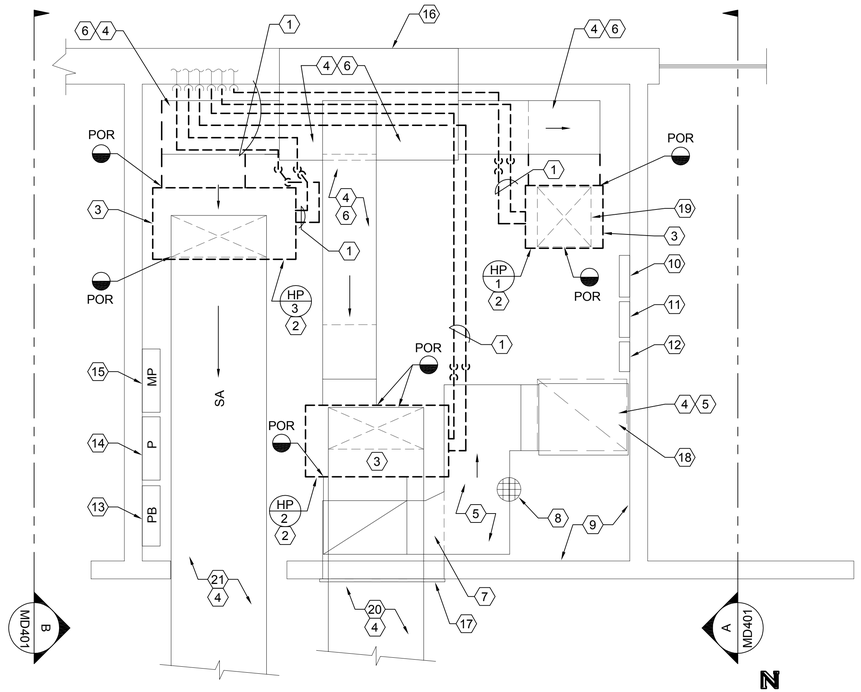
SHEET TITLE

MECHANICAL DEMOLITION FLOOR PLAN

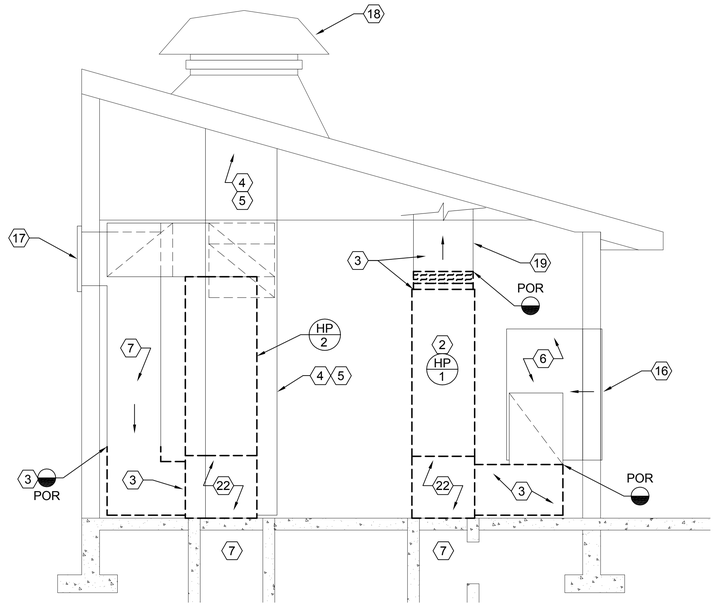
SHEET NO.

MD101



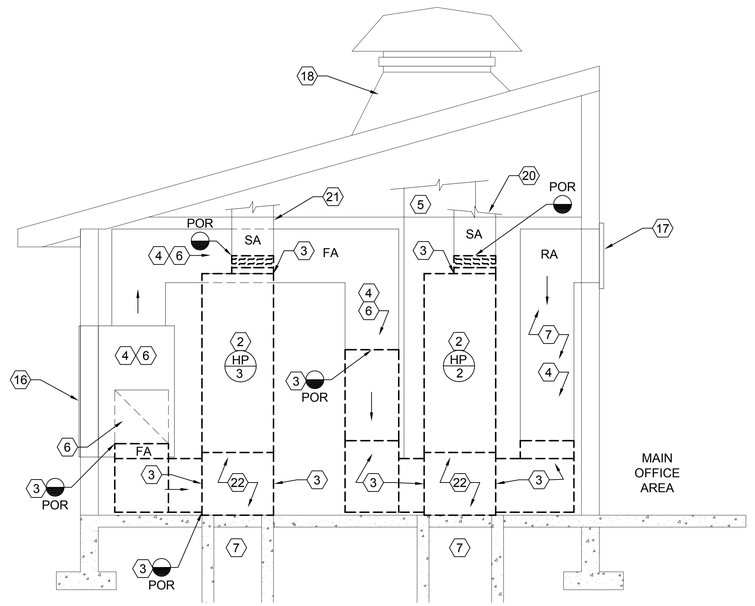
MECHANICAL ROOM DEMOLITION PLAN

SCALE: 1/2" = 1'-0"



A MECH. ROOM DEMO SECTION LOOKING WEST

SCALE: 1/2" = 1'-0"



B MECH. ROOM DEMO SECTION LOOKING EAST

SCALE: 1/2" = 1'-0"

SHEET NOTES

1. REMOVE ALL EXISTING REFRIGERANT PIPING INCLUDING TRAPS, SIGHT GLASS, FILTERS, SUPPORTS, ETC. SEE SHEET MD101 FOR CONTINUATION.
2. REMOVE EXISTING HEAT PUMPS INCLUDING CONTROLS, ELECTRICAL, AND COILS.
3. REMOVE EXISTING DUCTWORK WHERE EVER NEEDED TO INSTALL NEW FURNACES.
4. EXISTING DUCTWORK SHALL REMAIN.
5. EXISTING RELIEF AIR SHALL REMAIN.
6. EXISTING FRESH AIR SHALL REMAIN.
7. EXISTING RETURN AIR SHALL REMAIN.
8. EXISTING FLOOR DRAIN SHALL REMAIN.
9. EXISTING TELEPHONE BOARD ETC. LOCATED IN THIS AREA SHALL REMAIN.
10. CONTROL PANEL AH-1 (HP-1) SHALL BE REUSED FOR NEW FURNACE F-1.
11. CONTROL PANEL AH-2 (HP-2) SHALL BE REUSED FOR NEW FURNACE F-2.
12. CONTROL PANEL AH-3 (HP-3) SHALL BE REUSED FOR NEW FURNACE F-3.
13. EXISTING ELECTRICAL PANEL PB SHALL REMAIN.
14. EXISTING ELECTRICAL PANEL P SHALL REMAIN.
15. EXISTING ELECTRICAL PANEL MP SHALL REMAIN.
16. FRESH AIR WALL LOUVER SHALL REMAIN.
17. RETURN AIR GRILLE IN WALL SHALL REMAIN.
18. ROOF MOUNTED RELIEF AIR HOOD SHALL REMAIN.
19. SUPPLY AIR FROM HP-1 TO NORTH OFFICES SHALL REMAIN.
20. SUPPLY AIR FROM HP-2 TO MAIN OPEN SPACE OFFICES SHALL REMAIN.
21. SUPPLY AIR FROM HP-3 TO SOUTH OFFICES SHALL REMAIN.
22. MIXING BOXES SHALL BE REMOVED.

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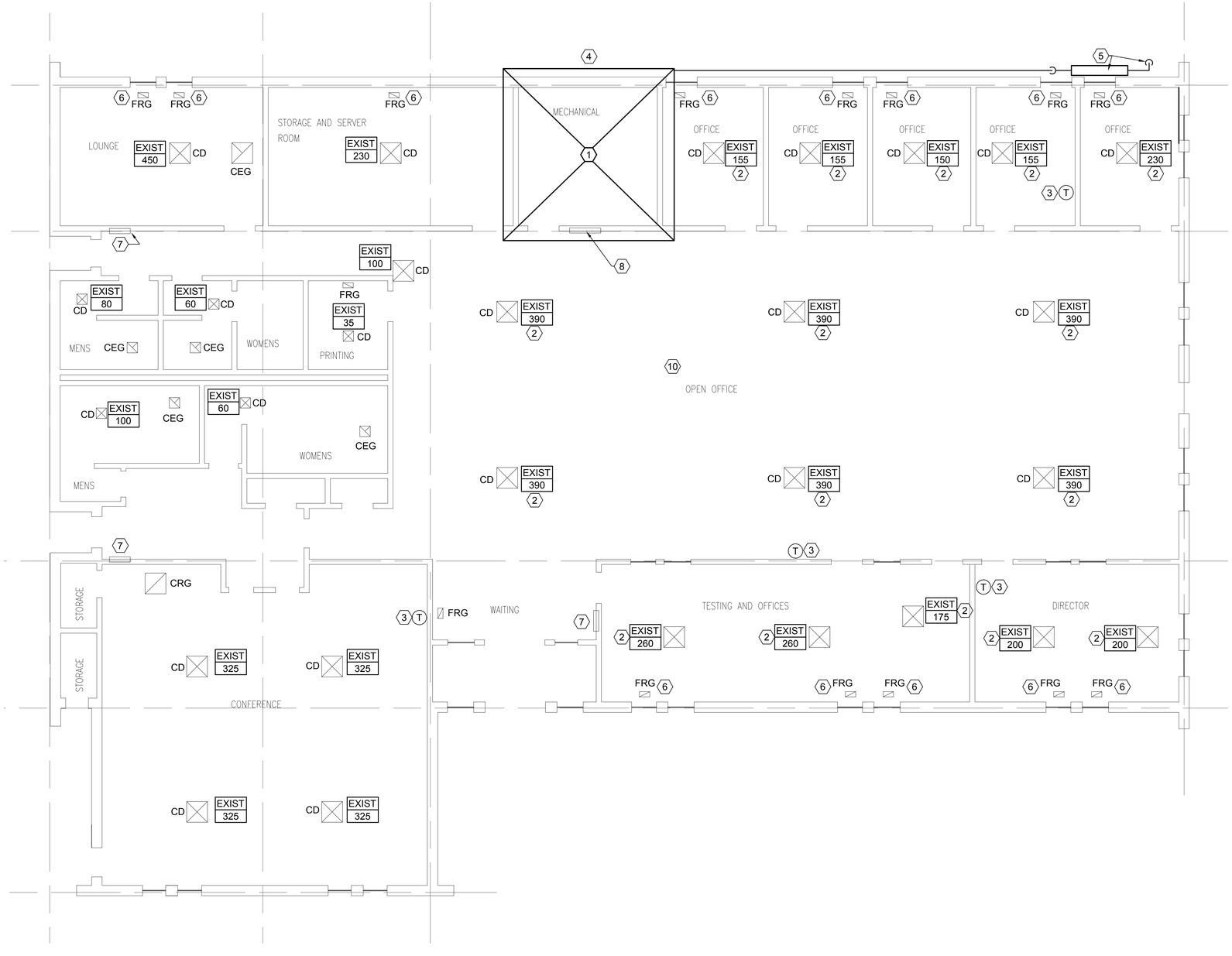
PROFESSIONAL ENGINEER 09/23/05 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE

DEMOLITION MECHANICAL ROOM PLAN AND SECTIONS

SHEET NO.

MD401



NEW MECHANICAL FLOOR PLAN

SCALE: 3/16" = 1'-0"

SHEET NOTES

1. SEE LARGE SCALE PLAN SHEET ME401 FOR NEW MECHANICAL EQUIPMENT ROOM.
2. BALANCE EXISTING CEILING DIFFUSERS TO CFM SHOWN.
3. EXISTING THERMOSTATS SHALL REMAIN AND BE CONNECTED TO THE NEW FURNACES. FIELD VERIFY EXACT LOCATION OF THERMOSTATS.
4. SEE NEW AIR COOLED CONDENSING UNIT LAYOUT SHEET ME401.
5. EXISTING GAS LINE STUB-UP CONTRACTOR SHALL PROVIDE, THROUGH QUESTAR, A NEW INLINE METER SET. PRV SHALL BE SIZED FOR _____ BTUH.
6. EXISTING CEILING AND FLOOR GRILLES SHALL REMAIN. FIELD VERIFY NUMBERS AND LOCATIONS.
7. EXISTING ELECTRIC WALL HEATERS SHALL REMAIN.
8. RA GRILE LOCATED HIGH ON WALL SHALL REMAIN.
9. DAMPER CONTROL.
10. ITS NOT THE INTENT OF THESE DOCUMENTS TO REMOVE OR REPLACE ANY DUCTWORK, GRILLES, DIFFUSERS, ETC. IN THIS AREA. CONTROLS WILL BE EXTENDED TO CONNECT TO NEW FURNACES.

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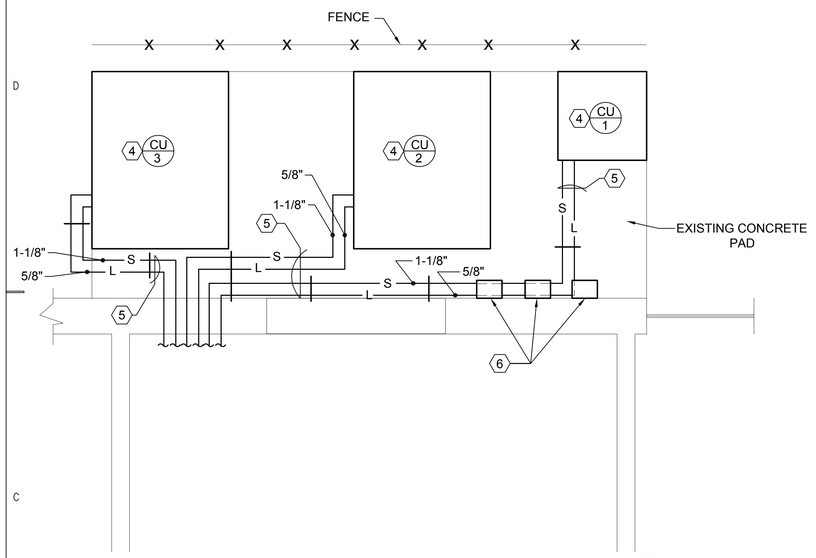
SHEET TITLE

NEW MECHANICAL FLOOR PLAN

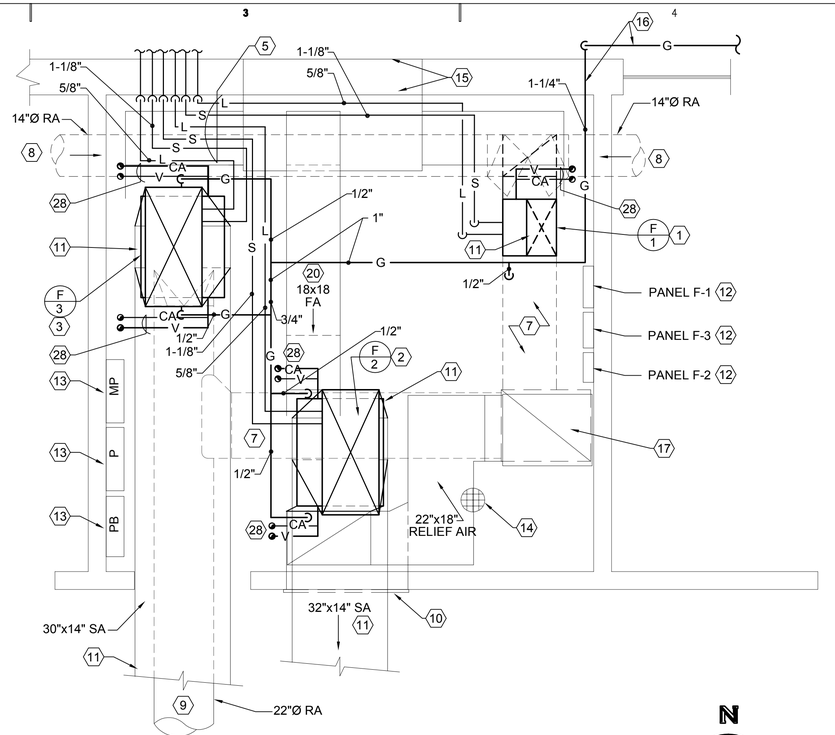
SHEET NO.

ME101



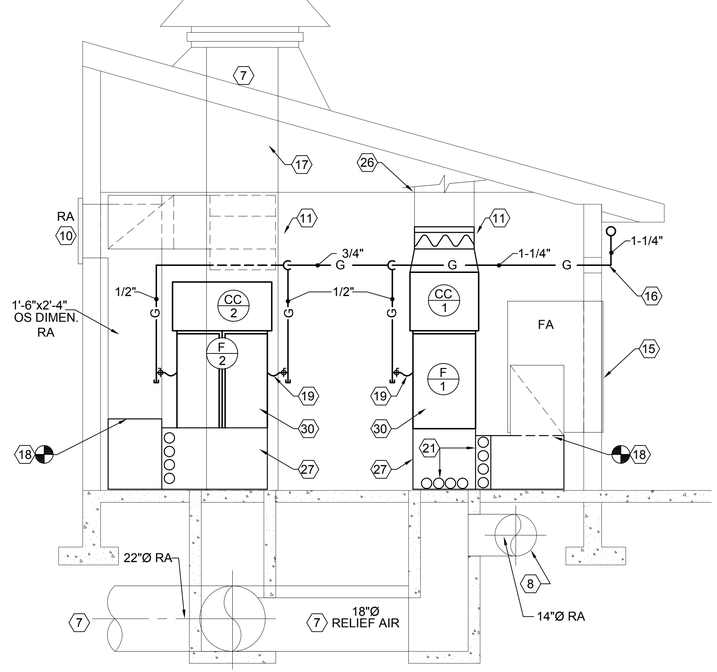
NEW CONDENSER PLAN

SCALE: 1/2" = 1'-0"



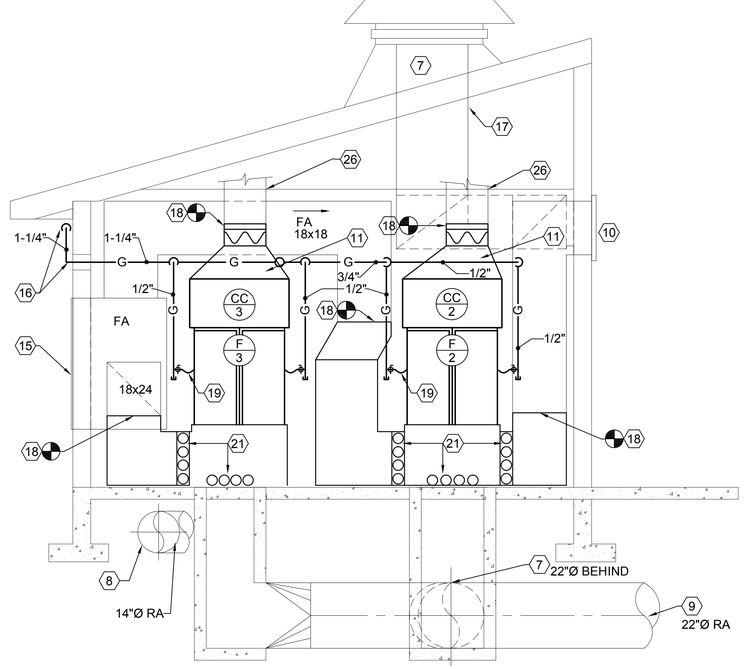
ENLARGED MECHANICAL ROOM FLOOR PLAN

SCALE: 1/2" = 1'-0"



A MECH. ROOM SECTION LOOKING WEST

SCALE: 1/2" = 1'-0"



B MECH. ROOM SECTION LOOKING EAST

SCALE: 1/2" = 1'-0"

SHEET NOTES:

1. INSTALL NEW FURNACE F-1 IN SAME LOCATION AS REMOVED HP-1.
2. INSTALL NEW FURNACE F-2 IN SAME LOCATION AS REMOVED HP-2.
3. INSTALL NEW FURNACE F-3 IN SAME LOCATION AS REMOVED HP-3.
4. INSTALL AIR COOLED CONDENSING UNITS ON EXISTING CONCRETE PAD AS SHOWN.
5. ROUTE NEW REFRIGERANT PIPING AS SHOWN. SEE REFRIGERANT ISOMETRIC SHEET A4/ME501.
6. PROVIDE NEW ELECTRICAL CIRCUIT BREAKERS IN SAME LOCATION AS REMOVED BREAKERS.
7. EXISTING UNDER FLOOR RELIEF AIR DUCT WORK SHALL REMAIN AND BE REUSED. PROVIDE NEW AUTO DAMPERS AND DDC CONTROLLERS BETWEEN RETURN AIR AND RELIEF AIR DUCTS. RELIEF AIR HOOD SHALL BE REUSED.
8. EXISTING 14"Ø UNDER FLOOR RETURN DUCT SHALL BE REUSED FOR NEW FURNACE F-1.
9. EXISTING 22"Ø UNDER FLOOR RETURN AIR DUCT SHALL BE REUSED FOR NEW FURNACE F-3.
10. EXISTING OVERHEAD RETURN AIR DUCT AND SIDE WALL GRILLE SHALL BE REUSED FOR FURNACE F-2.
11. EXISTING OVERHEAD SUPPLY AIR DUCT WORK SHALL BE REUSED FOR THE NEW FURNACES. PROVIDE NEW DUCT WORK AND FLEX CONNECTIONS BETWEEN NEW FURNACES AND EXISTING DUCTWORK. MAKE NECESSARY DUCT TRANSITIONS BETWEEN FURNISHED FURNACES AND EXISTING DUCTWORK.
12. EXISTING CONTROL PANELS MAY BE REUSED FOR NEW FURNACES.
13. EXISTING ELECTRICAL PANELS SHALL BE REUSED FOR NEW FURNACES. PROVIDE NEW WIRING IN EXISTING CONDUIT SERVING FURNACES.
14. EXISTING FLOOR DRAIN SHALL BE USED FOR DRAINS FROM NEW FURNACES AND NEW DX COILS.
15. EXISTING FRESH AIR LOUVER AND DUCT WORK SHALL BE REUSED FOR NEW FURNACES.
16. GAS LINE LOCATED UNDER THE EAVE OF THE ROOF. DROP DOWN AT THIS LOCATION, PENETRATE EXISTING WALL AND ROUTE TO EQUIPMENT. SEAL AROUND WALL PENETRATION WATER AND AIR TIGHT.
17. EXISTING 2'-0"X2'-6" OUTSIDE DIMENSION RELIEF AIR DUCT TO RELIEF HOOD.
18. CONNECT NEW DUCT WORK FROM THIS POINT TO NEW FURNACES.
19. FLEX CONNECTION GAS TO FURNACE. SEE DETAIL B3/ME501.
20. OVERHEAD FRESH AIR DUCT SHALL REMAIN.
21. AUTO DAMPERS AND MANUAL DAMPERS SHALL BE INSTALLED IN THE FRESH AIR AND RETURN AIR CONNECTIONS.
22. REFRIGERANT PIPE SUPPORTS SEE DETAILS A1 AND C1/ME501.
23. TRANSITION FROM COOLING COIL CC-1 - 23"X19" TO EXISTING 20"X18" DUCT BELOW CEILING PROVIDE NEW 20"X18" FLEX CONNECTION.
24. TRANSITION FROM COOLING COIL CC -2- 40 ½" X 20 ½" TO EXISTING 30"X14" DUCT BELOW CEILING. PROVIDE NEW 30"X14" FLEX CONNECTION.
25. TRANSITION FROM COOLING COIL CC -3- 40 ½" X 20 ½" TO EXISTING 30"X14" DUCT BELOW CEILING. PROVIDE NEW 30"X14" FLEX CONNECTION.
26. EXISTING FIRE DAMPER SHALL REMAIN.
27. PROVIDE NEW PLENUM RETURN AIR AND FRESH AIR BOX UNDER FURNACE. DIMENSIONS OF NEW MIXING BOX SHALL BE THE SAME SIZE AS THE DIMENSION OF THE NEW FURNISHED FURNACE. THE HEIGHT OF THE BOX SHALL BE 21" OUTSIDE DIMENSION FROM FLOOR TO TOP OF BOX.
28. PROVIDE 2 ½" VENT PVC PIPING AND 2 ½" COMBUSTION AIR PVC PIPING AND EXTEND TO CONCENTRIC VENT FITTING ON ROOF. SEE DETAIL C3/ ME 501.
29. PROVIDE 2" VENT PVC PIPING AND 2" COMBUSTION AIR PVC PIPING AND EXTEND TO CONCENTRIC VENT FITTING ON ROOF. SEE DETAIL C3/ ME 501. VERIFY ROUTE IN FIELD TO MISS DUCTWORK IN CEILING SPACE.
30. ¾" DIAMETER DRAIN PIPING FROM COOLING COIL AND FURNACE SHALL BE ROUTED ALONG THE FLOOR OVER TO THE FLOOR DRAIN. PIPING SHALL BE SECURED TO FLOOR. DRAIN PIPING SHALL BE ROUTED SQUARE AND PARALLEL TO EQUIPMENT AS THIS COULD BE A TRIPPING HAZARD. STAY AS CLOSE AS POSSIBLE TO EQUIPMENT AWAY FROM THE MIDDLE OF THE FLOOR.

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PROJECT NAME & ADDRESS

ST. GEORGE DWS ADMIN. BLDG.- HVAC REPLACEMENT

DFCM# 15133920

ST. GEORGE, UTAH

MARK	DATE	REVISION

PROJECT MANAGER: WP
DRAWN BY: STAFF
CHECKED BY: SLW
DATE: 09/23/05
WHW JOB NO.: 05012

PROFESSIONAL ENGINEER 09/23/05 WINWARD M. PACKER No. 375080 STATE OF UTAH

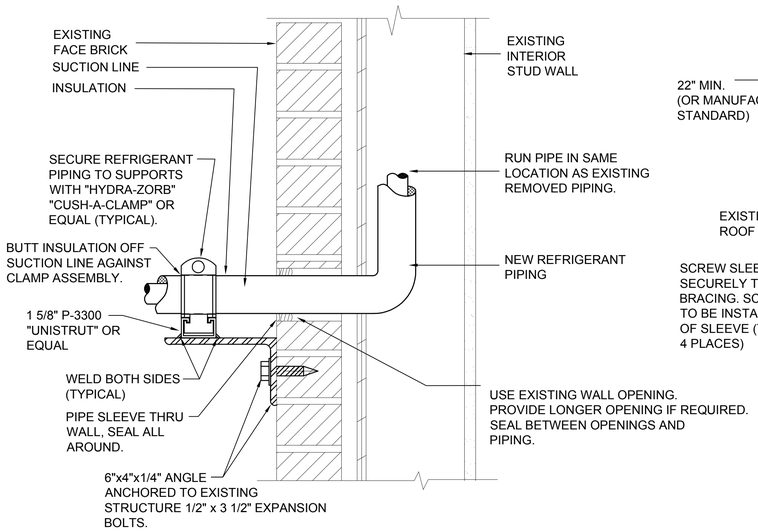
SHEET TITLE

NEW LARGE SCALE MECHANICAL ROOM PLAN

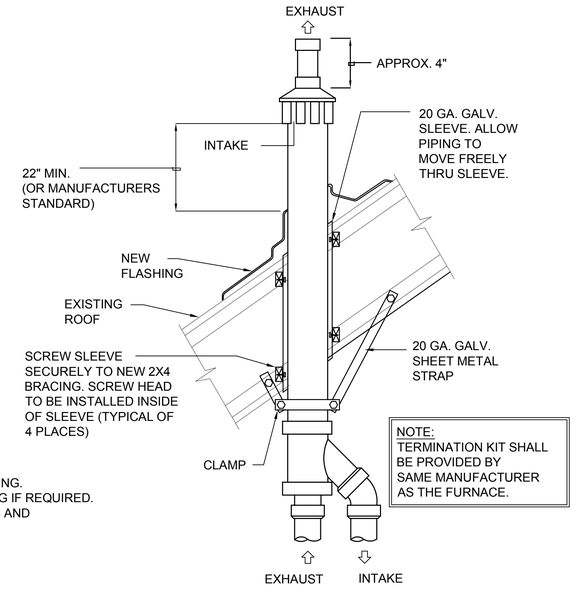
SHEET NO.

ME401

NOTE:
LIQUID LINE SIMILAR



C1 REFRIGERANT PIPE SUPPORT AT WALL
SCALE: NONE



NOTE:
TERMINATION KIT SHALL BE PROVIDED BY SAME MANUFACTURER AS THE FURNACE.

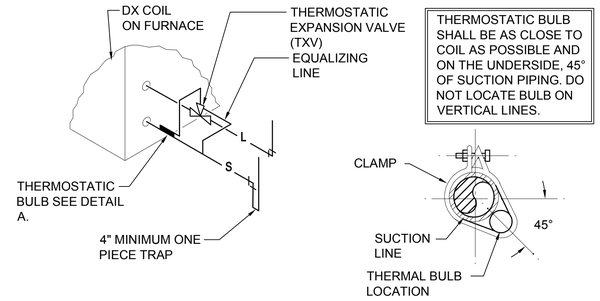
C3 CONCENTRIC ROOF TERMINATION DETAIL
SCALE: NONE

REFRIGERANT PIPING LEGEND

SYMBOL	DESCRIPTION
	EXPANSION VALVE. SEE DETAIL B4 ME501
	MOISTURE INDICATING SIGHT GLASS
	FLEXIBLE CONNECTION
F	FILTER DRIER
	PIPE SUPPORT. SEE DETAILS C1 ME501
	EXTERIOR PIPE SUPPORT. SEE DETAIL A1 ME501
	TRAP. ONE PIECE FACTORY FABRICATED
	DIRECTION OF SLOPE DOWN
S	SUCTION LINE
L	LIQUID LINE

REFRIGERANT PIPE SIZES

CONDENSING UNIT	LIQUID	SUCTION
CU 1	5/8"	1-1/8"
CU 2	5/8"	1-1/8"
CU 3	5/8"	1-1/8"

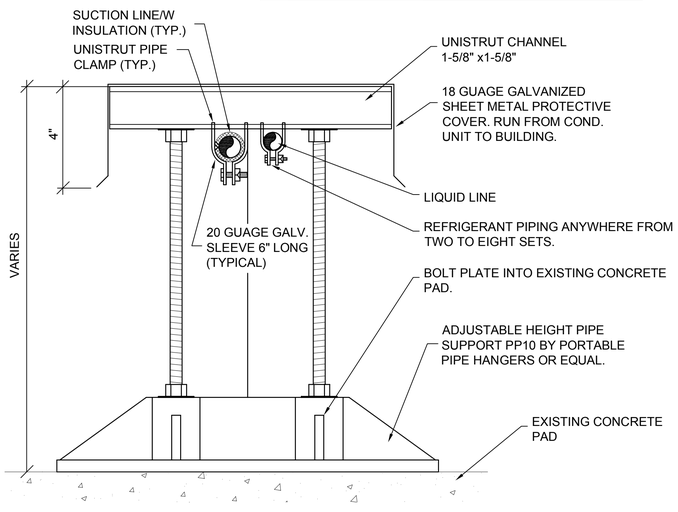


THERMOSTATIC BULB SHALL BE AS CLOSE TO COIL AS POSSIBLE AND ON THE UNDERSIDE, 45° OF SUCTION PIPING. DO NOT LOCATE BULB ON VERTICAL LINES.

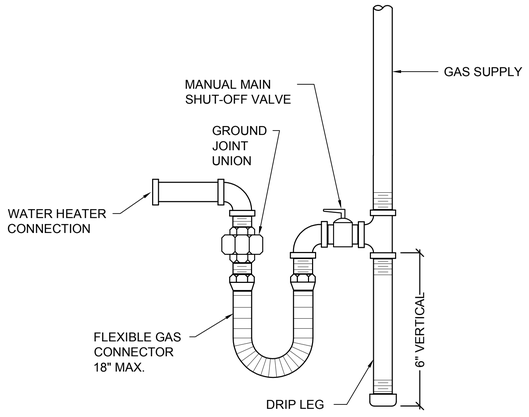
DETAIL A

B4 SINGLE REFRIGERANT COIL CONNECTION DETAIL
SCALE: NONE

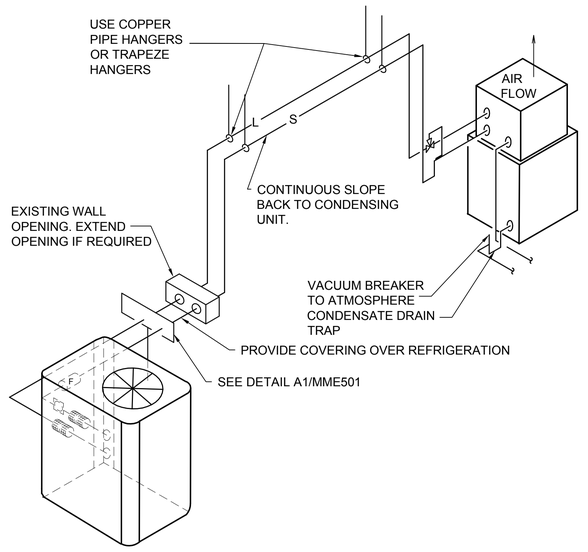
NOTE:
RUN STEEL COVER CONTINUOUS FROM CONDENCING UNIT TO PENETRATIONS AT BUILDING WALL. PAINT COVER SAME COLOR AS BUILDING. PAINTER MUST USE A BASE PRIMER BEFORE FINAL COATS ARE APPLIED.



A1 EXTERIOR REFRIGERANT PIPE SUPPORT
SCALE: NONE



B3 GAS LINE CONNECTION DETAIL
SCALE: NONE



A4 TYPICAL REFRIGERANT SCHEME
SCALE: NONE

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PROFESSIONAL ENGINEER 09/23/05 WINWARD M. PACKER No. 375080 STATE OF UTAH

SHEET TITLE
MECHANICAL DETAILS

SHEET NO.
ME501

FURNACE SCHEDULE

SYMBOL (2)	No. REQUIRED	MIN. REQUIRED OUTPUT BTU/HR (1)	MINIMUM C.F.M.	EXT. STATIC PRESSURE IN W.G.	MOTOR					COMMENTS	SCHEDULE NOTES
					MIN HP	PHASE	HERTZ	VOLTS	SPEED (5)		
F 1	ONE(1)	57,000	1810	.6	3/4	1	60	120	HIGH	CARRIER 58MXA080-20	1,2,3,4,5,7
F 2	TWO (6)	56,000	1300	.6	1/2	1	60	120	MED-HIGH	CARRIER 58MXA060-16	1,2,3,4,5,6,7
F 3	TWO (6)	56,000	1300	.6	1/2	1	60	120	MED-HIGH	CARRIER 58MXA060-16	1,2,3,4,5,6,7

(1) SEA LEVEL RATING.

(2) FURNACE SYMBOLS CORRESPOND WITH CONDENSING UNIT AND COOLING COIL SYMBOLS.

(3) SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.

(4) CAPACITIES SHOWN ARE FOR INDIVIDUAL FURNACES AND NOT FOR TANDEM TOTALS.

(5) MAY VARY ACCORDING TO MANUFACTURER.

(6) PROVIDE TWINNING KIT.

(7) COORDINATE COMBUSTION AIR AND FLUE GAS PIPING SIZES WITH MANUFACTURER'S RECOMMENDATIONS.

AIR COOLED CONDENSING UNIT SCHEDULE

SYMBOL	AREA SERVED	MIN SIZE (TONS)	COMPRESSOR MOTOR			MCA	MAX CKT BKR. AMPS	MNUF. & MODEL #	SCHEDULE NOTES
			No.	RLA (EACH)	LRA (EACH)				
CU 1	OFFICES NORTH END, BREAK RM, COMPUTER RM, MENS REST RM	5	ONE(1)	16.0	125	21.4	30	CARRIER 38CKC-060	1,2,3,4,5,7
CU 2	CENTER OFFICE, WOMEN'S REST RM, PRINT RM	7.5	ONE(1)	25.6	190	35	60	CARRIER 38ARZ008	1,2,3,4,5,6
CU 3	OFFICES SOUTH END AND CONFERENCE RM	7.5	ONE(1)	25.6	190	35	60	CARRIER 38ARZ008	1,2,3,4,5,6

(1) REFRIGERANT R-22.

(2) AT DESIGN CONDITIONS AND 95° F EAT, 63° EWB.

(3) CONDENSING UNIT SYMBOLS CORRESPOND WITH FURNACE SYMBOLS.

(4) SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.

(5) ELECTRIC SERVICE: 208/3 ϕ/60

(6) SEER- 12.7 FOR CU-2 AND CU-3.

(7) SEER - 10.5 FOR CU-1.

COOLING COIL SCHEDULE

SYMBOL	No. REQUIRED	MIN. REQUIRED CAPACITY		COND. ENT. EVAP.		CFM	MANUF. & MODEL #	SCHEDULE NOTES
		TOT. MBH	SEN. MBH	DB °F	WB °F			
CC 1	ONE(1)	55.1	50.7	80	63	1810	CARRIER CK5B060	1,2,3,4,5
CC 2	ONE COIL TWIN FURNACES	80	76	80	63	2495	CARRIER 28LA008	1,2,3,4,5
CC 3	ONE COIL TWIN FURNACE	80	76	80	63	2395	CARRIER 28LA008	1,2,3,4,5

(1) COMPLETE WITH FACTORY COIL BOX AND COIL.

(2) MANUFACTURER NUMBER LISTED ARE CARRIER.

(3) CAPACITIES SHOWN ARE FOR SINGLE COILS.

(4) UPFLOW COIL.

(5) MATCH COIL WITH ASSOCIATED FURNACES.

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SHEET TITLE

MECHANICAL SCHEDULES

SHEET NO.

ME601